

# ***COFINANCING AND INFRASTRUCTURE PROJECT OUTCOMES IN CHINESE OVERSEAS DEVELOPMENT FINANCE***

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## **Overview**

Increasing infrastructure finance is high on the agenda for the Global South. Mobilizing more financial resources through cofinancing with government agencies, multilateral partners, and private actors is acknowledged by many development institutions as an important tool to bridge the development finance gap (World Bank, 1997; Global Environment Facility, 2011). Despite heated policy conversations on the role of cofinancing in international development, the topic has attracted limited attention in academic literature. In this paper, we narrow this literature gap by providing empirical evidence from project-level outcomes of Chinese overseas development finance in infrastructure projects.

Over recent years, China has become a major international infrastructure financier, particularly in the energy sector. Two policy banks of China (China Development Bank and Export-Import Bank of China) have provided more than 75 USD billion overseas energy finance since 2016, exceeding the total amount of lending provided by the World Bank over the same period. As a newcomer and fast-growing player in international infrastructure development, China increasingly emphasizes the role of cofinancing in its overseas development finance. Existing literature drawn from other development programs shows that cofinancing can impact project outcomes (Chatterjee, Sakoulis and Turnovsky, 2003; Kotchen and Negi, 2019), and previous conceptual work highlights the existence of various types of cofinancing arrangements in Chinese development finance (Lin and Wang, 2017; Chin and Gallagher, 2019; Humphrey and Chen, 2021; Sauer *et al.*, 2022). This motivates us to investigate the variations in Chinese development cofinancing arrangements and how they may affect project outcomes differently.

## **Methods**

In this paper, we investigate the project outcomes of a sample of 2997 Chinese overseas development finance infrastructure projects committed from 2000 to 2017, including the energy, transport/storage, and industry/mining/construction sectors. We examine two types of project outcomes: project implementation and environmental impacts. Implementation is the key to achieving project and development goals of infrastructure projects and we focus on two outcomes that are central to implementation: completion and localization. In terms of environmental impacts, we examine CO<sub>2</sub> emissions intensity (within a sample of fossil fuel based electric power projects) and biodiversity risks, which have been identified as major risks facing Chinese overseas infrastructure projects (Ascensão *et al.*, 2018; Narain *et al.*, 2020).

The key project-level information on cofinancing and implementation is extracted from AidData's Global Chinese Development Finance Dataset, and we construct environmental impact variables following the approach established in the carbon emission estimation and biodiversity risk evaluation literature (Pfeiffer *et al.*, 2018; Springer, Evans and Teng, 2021; Yang *et al.*, 2021). We first explore the differences between cofinanced and non-cofinanced projects and then assess variation across different types of cofinancing. To investigate the effect of cofinancing arrangements on project outcomes, we estimate a linear regression model in the cross-section of project-level data.

## **Results**

We find cofinancing is associated with better project outcomes, though effects vary across examined outcomes and cofinancing arrangements. Cofinancing correlates with higher infrastructure project completion rates, as cofinanced projects are 3.3~7.0 percentage points less likely to be cancelled or suspended than non-cofinanced ones. We also find cofinancing with specific partners can bring particular benefits. Precisely, projects with cofinancing from the recipient country have a 20.4 percentage points higher probability of involving local implementors and an average of 0.11 increase in the number of local implementors than non-cofinanced projects. On the other hand, projects with cofinancing from international partners have better environmental performance with regard to a 2.7 percent lower

carbon dioxide emissions intensity and a 0.42 standard deviation decrease in biodiversity risk compared to non-cofinanced projects.

## Conclusions

Overall, our results suggest a positive link between cofinancing and project outcomes in Chinese development finance. The findings imply that cofinancing can be an effective tool to improve outcomes of Chinese overseas development finance projects. As mitigating social and environmental risks has been a stated policy priority for China's Belt and Road Initiative, our results show that strengthening collaboration with the recipient and international partners, such as through cofinancing, might be a way forward to enhance project success and achieve greater sustainable performance in Chinese overseas development finance.

Our findings also have broader implications for the international community developing infrastructure projects. Our results suggest that cofinancing, in addition to filling the financing gap, can increase the likelihood of project success and improve environmental performance. These findings underscore the importance of a collaborative approach to developing infrastructure projects in the Global South. By leveraging the resources and expertise of multiple partners, cofinancing can help to build more inclusive and sustainable infrastructure that leads to economic growth and development.

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